

MEDICAL STANDARDS

And Review Criteria for Medical Review Officers

These Standards Are Applicable to the Following Function:

WILDLAND FIREFIGHTER (ARDUOUS DUTY)

Under 5 CFR Part 339 Medical Qualifications Determinations, medical standards may be established for functions with duties that are arduous or hazardous in nature. The medical standards described in this section are required because of the arduous and hazardous occupational, functional and environmental requirements involved with wildland fire fighting. The medical standards are provided to aid the examining physician, the designated medical review officer(s), and officials of the involved agencies when determining whether medical conditions may hinder an individual's ability to safely and efficiently perform the requirements of a wildland firefighter without undue risk to themselves or others. They are also intended to ensure consistency and uniformity in the medical evaluation of applicants and incumbents for this role.

Each of the medical standards listed in this document are subject to clinical interpretation by an appropriate medical review officer (MRO) who will incorporate their knowledge of the job requirements and environmental conditions in which employees must work. Listed with the standards are examples of medical conditions and/or physical impairments that may be found to be disqualifying. Individualized assessments will be made on a case-by-case basis to determine the individual's ability to meet the performance-related requirements of the wildland firefighter function. Final consideration and medical determination may require additional medical information and/or testing that is not routinely required during either the pre-placement or periodic medical examination process.

Please Note: These Medical Standards are distinct from the “*performance requirements*” of the wildland firefighter. Performance requirements are established by individual agencies, and are discussed in the report prepared by Dr. Brian J. Sharkey, entitled “Fitness and Work Capacity,” Second Edition, National Wildfire Coordinating Group, April 1997.

Rationale for Medical Evaluation and Review of Wildland Firefighters

The functional requirements for wildland firefighters are by nature arduous and hazardous. These functions are performed under variable and unpredictable working conditions. Due to the performance requirements and working conditions, an interagency team has developed these standards in order to help ensure the following:

1. Wildland firefighters will be able to perform the full range of requirements of their duties under the conditions under which those duties must be performed.

2. Existing/preexisting medical conditions of wildland firefighters and applicants will not be aggravated, accelerated, exacerbated, or permanently worsened.
3. Demonstration of the interagency fire community's strong commitment to public and employee health and safety, and a strong commitment to maintaining the integrity of mission accomplishment.

Medical Examinations

Medical examinations of wildland firefighter applicants and incumbents are to be conducted as a *pre-placement* exam for all permanently-employed individuals who are to be assigned to roles that involve the arduous level of wildland fire fighting, and then every five years thereafter until age 45, at which time the frequency of exams changes to every three years. Please refer to "National Interagency Incident Management System Wildland and Prescribed Fire Qualification System Guide, PMS 310-1, January 2000", for information on specific fire fighting positions that have been determined to require arduous exertion. On intervening years, when a physical examination is not conducted, an interim year medical history will be completed by each firefighter and reviewed prior to the firefighter's taking the performance test. In addition, a specified medical screening is to be performed and recorded by a health care professional. The MRO may determine that, due to health and safety risks, interval changes in health status, and possible medically related performance concerns, the medical evaluation of individual firefighters must be conducted more frequently.

There are factors that may make a conventional medical examination impractical. The lack of adequate medical services, the distance from the employee residence to appropriate medical facilities, time sensitive hiring processes (especially during periods of fire emergencies), all create situations where the agencies may need to gather medical information within a very limited timeframe. In these situations, the "Annual Medical History and Clearance Form" may be used prior to scheduling an arduous duty performance test. In addition, a specified medical screening is to be performed and recorded by a health care professional. The Medical Standards Team cannot recommend the annual medical history and medical screen procedure as an acceptable substitute for a scheduled medical examination/interim medical history program, but recognizing the logistics of hiring numerous firefighters in compressed timeframes and under difficult logistical circumstances, we feel that this is the closest to a comparable substitute that we can provide.

The medical examination is to consist of those services summarized in the table on page 4. The evaluation is to be conducted by a qualified health care provider (for assistance, please refer to Tab 5, "*Medical Services Providers*" in the Department of the Interior *Occupational Medicine Program Manual and Handbook*), using the form entitled **Federal Interagency Medical History, Examination, and Clearance Form for Wildland Firefighters (Arduous Duty)**. The examining physician will provide the medical clearance for firefighters if sufficient information is available to allow this decision. The MRO will provide the final medical determination in those cases in which a full clearance cannot be granted by the examining physician.

**ESSENTIAL FUNCTIONS AND WORK CONDITIONS OF A
WILDLAND FIREFIGHTER**

Time/Work Volume	Physical Requirements	Environment	Physical Exposures
<i>May include:</i>			
<ul style="list-style-type: none"> • long hours (minimum of 12 hour shifts) • irregular hours • shift work • time zone changes • multiple and consecutive assignments • pace of work typically set by emergency situations • ability to meet “arduous” level performance testing (the “Pack Test”), which includes carrying a 45 pound pack 3 miles in 45 minutes, approximating an oxygen consumption (VO₂ max) of 45 mL/kg-minute • typically 14-day assignments <i>But may extend up to 21-day assignments</i> 	<ul style="list-style-type: none"> • use shovel, Pulaski, and other hand tools to construct fire lines • lift and carry more than 50# • lifting or loading boxes and equipment • drive or ride for many hours • fly in helicopters and fixed wing airplanes • work independently, and on small and large teams • use PPE (includes hard hat, boots, eyewear, and other equipment) • arduous exertion • extensive walking, climbing • kneeling • stooping • pulling hoses • running • jumping • twisting • bending • rapid pull-out to safety zones • provide rescue or evacuation assistance • use of a fire shelter 	<ul style="list-style-type: none"> • very steep terrain • rocky, loose, or muddy ground surfaces • thick vegetation • down/standing trees • wet leaves/grasses • varied climates (cold/hot/wet/dry/humid/snow/rain) • varied light conditions, including dim light or darkness • high altitudes • heights • holes and drop offs • very rough roads • open bodies of water • isolated/remote sites • no ready access to medical help 	<ul style="list-style-type: none"> • light (bright sunshine, UV) • burning materials • extreme heat • airborne particulates • fumes, gases • falling rocks and trees • allergens • loud noises • snakes • insects/ticks • poisonous plants • trucks and other large equipment • close quarters, large numbers of other workers • limited/disrupted sleep • hunger/irregular meals • dehydration

Medical Examination Services to be Provided for the Wildland Firefighter

HISTORIES

- General Medical and Occupational History

EXAMINATION ITEMS

- General Appearance and Vital Signs (height, weight, blood pressure, heart rate)
- General Physical Examination, with Special Attention To:
 - Overall Physical Fitness
 - Habitus (obesity)
 - Skin
 - Eyes, Ears, Nose, Mouth, and Throat
 - Neck (including flexibility and rotation)
 - Thyroid
 - Endocrine and Metabolic System
 - Respiratory System
 - Cardiovascular System
 - Back & Musculoskeletal System (including flexibility)
 - Extremities (including strength and range of motion)
 - Peripheral Vascular System
 - Abdomen
 - Gastrointestinal System
 - Genitourinary System
 - Central Nervous System (cranial nerves I-XII, cerebellar function)
 - Peripheral Nervous System (reflexes, sensation, and position sense)
 - Mental Status Evaluation

DIAGNOSTIC TESTS/PROCEDURES

- Audiogram (including 500, 1000, 2000, 3000, 4000, 6000, 8000 Hertz in both ears)
- Visual Acuity, near and far vision, corrected and uncorrected
- Peripheral Vision
- Depth perception
- Color Discrimination (red/green/yellow)
- Pulmonary Function Test-Spirometry
- Electrocardiogram-Resting (one time after age 40)
- TB (Mantoux) skin test (baseline exam only)

LABORATORY

- CBC (hgb, hct, plate., WBC w/ diff.) and blood chemistries: (LDH, SGOT/AST, SGPT/ALT, GGT, bilirubin [baseline/exit exam only]); (total chol., LDL-C, HDL-C, triglycerides, blood sugar [each exam])
- Urinalysis

CLEARANCES

- Medical Clearance for Wildland Firefighter

PSYCHIATRIC STANDARD

The applicant/incumbent must have judgement, mental functioning, and social interaction/behavior that will provide for the safe and efficient conduct of the requirements of the job. This may be demonstrated by:

- No evidence by physical examination and medical history of psychiatric conditions (including alcohol or substance abuse) likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 4).

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

(All diagnoses must be consistent with the diagnostic criteria as established by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, DSM-IV.)

1. **AMNESTIC** disorders
2. **DELIRIUM** (depending upon etiology and duration)
3. **DEMENTIAS** (depending upon etiology)
4. **DISSOCIATIVE DISORDERS**
5. **KLEPTOMANIA**
6. **PANIC DISORDER** and **OTHER ANXIETY DISORDERS** (depending upon etiology, duration and severity of clinical expression)
7. **PYROMANIA**
8. **SCHIZOPHRENIA** (Exceptions may be may in cases of a single episode of schizophrenic reactions associated with an acute illness capable of causing such reaction.)
9. **ANTISOCIAL PERSONALITY DISORDER**
10. **PARANOID PERSONALITY DISORDER**
11. **SCHIZOID PERSONALITY DISORDER**
12. **ORGANIC BRAIN SYNDROME**
13. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

PROSTHETICS, TRANSPLANTS, AND IMPLANTS STANDARD

The presence or history of organ transplantation or use of prosthetics or implants are not of themselves disqualifying. However, the applicant/incumbent must be able to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- No evidence by physical examination and medical history that the transplant, the prosthesis, the implant, or the conditions that led to the need for these treatments are likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 28).

Note: For individuals with transplants, prosthetics, or implanted pumps or electrical devices, the examinee will have to provide for agency review documentation from his/her surgeon or physician that the individual (and, if applicable, his/her prosthetic or implanted device) is considered to be fully cleared for the specified functional requirements of wildland fire fighting.

IMMUNE SYSTEM/ALLERGIC DISORDERS STANDARD

The applicant/incumbent must be free of communicable diseases, have a healthy immune system, and be free of significant allergic conditions in order to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A general physical exam of all major body systems that is within the range of normal variation, including:
 - no evidence of current communicable disease that would be expected to interfere with the safe and effective performance of the requirements of the job; and
 - no evidence of current communicable disease that would be expected to pose a threat to the health of any co-workers or the public; and
- Normal complete blood count, including white blood count and differential; and
- Current vaccination status for tetanus; and
- No evidence by physical examination and medical history of infectious disease, immune system, or allergy conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **HEREDITARY ANGIOEDEMA**
2. **GOODPASTURE'S SYNDROME**
3. **AUTOIMMUNE HEMOLYTIC ANEMIA**
4. **VASCULITIS**
5. **HASHIMOTO'S THYROIDITIS**
6. **MYASTHENIA GRAVIS**
7. **SYSTEMIC LUPUS ERYTHEMATOSUS**
8. **CHRONIC OR ACUTE ACTIVE HEPATITIS B OR HEPATITIS C** A finding of unexplained elevated liver transaminases may require additional diagnostic studies before a final medical recommendation is rendered.
9. **TUBERCULOSIS** A history of TB that has been appropriately treated for longer than 6 months is not disqualifying, provided that documentation supports the treatment history and the person has a current chest x-ray showing no active disease. A person with a positive PPD or Mantoux skin test will be required to have a chest X-ray and, if indicated, a sputum culture.
10. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

MEDICATION STANDARD

The need for and use of prescribed or over-the-counter medications are not of themselves disqualifying. However, there must be no evidence by physical examination, laboratory tests, or medical history of any impairment of body function or mental function and attention due to medications that are likely to present a safety risk or to worsen as a result of carrying out the specified functional requirements. Each of the following points should be considered:

- | | |
|--|------------------------------------|
| 1. Medication(s) (type and dosage requirements) | 2. Potential drug side effects |
| 3. Drug-drug interactions | 4. Adverse drug reactions |
| 5. Drug toxicity or medical complications from long-term use | 6. Drug-environmental interactions |
| 7. Drug-food interactions | 8. History of patient compliance |

VISION STANDARD

The applicant/incumbent must be able to see well enough to safely and efficiently carry out the requirements of the job. This requires binocular vision, far visual acuity, depth perception, peripheral vision, and color vision, which may be demonstrated by:

- Far visual acuity uncorrected of at least 20/100 in each eye for wearers of hard contacts or spectacles; and
- Far visual acuity of at least 20/40 in each eye corrected (if necessary) with contact lenses or spectacles; and
- Color vision sufficient to distinguish at least red, green, and amber (yellow); and
- Peripheral vision of at least 85° laterally in each eye; and
- Normal depth perception; and
- No ophthalmologic condition that would increase ophthalmic sensitivity to bright light, fumes, or airborne particulates, or susceptibility to sudden incapacitation.

Note: Contact lenses and spectacles are acceptable for correction of visual acuity, but the user must be able to demonstrate that the corrective device(s) can be worn safely and for extended periods of time without significant maintenance, as well as being worn with any necessary personal protective equipment. Successful users of long-wear soft contact lenses are not required to meet the “uncorrected” vision guideline.

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **CHRONIC CONJUNCTIVITIS**
2. **CORNEAL ULCERS** This condition must be treated and cleared by an Ophthalmologist before a medical clearance can be granted.
3. **RETINAL DETACHMENT**
4. **NIGHT BLINDNESS**
5. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

HEAD, NOSE, MOUTH, THROAT AND NECK STANDARD

The applicant/incumbent must have structures and functions of the head, nose, mouth, throat, and neck that are sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the head, nose, mouth, throat, and neck that is within the range of normal variation, including:
normal flexion, extension, and rotation of the neck; and
open nasal and oral airways; and
unobstructed Eustachian tubes; and
no structural abnormalities that would prevent the normal use of a hard hat and protective eyewear; and
- Normal conversational speech; and
- No evidence by physical examination and medical history of head, nose, mouth, throat, or neck conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **MUTISM/APHONIA**
2. **NASAL POLYPS THAT SIGNIFICANTLY OBSTRUCT BREATHING**
3. **RESTRICTED RANGE OF MOTION IN THE NECK**
4. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

HEARING STANDARD

The applicant/incumbent must be able to hear well enough to safely and efficiently carry out the requirements of the job. This requires binaural hearing (to localize sounds) and auditory acuity, which may be demonstrated by:

- A current pure tone, air conduction audiogram, using equipment and a test setting which meet the standards of the American National Standards Institute (see 29 CFR 1910.95); and
- Documentation of hearing thresholds of no greater than 40 dB at 500, 1000, 2000, and 3000 Hertz in each ear; and
- No evidence by physical examination and medical history of ear conditions (external, middle, or internal) likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job.

Note: The use of a hearing aid(s) to meet this standard is **not** permitted.

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **MENIERE'S DISEASE**
2. **ACOUSTIC NEUROMA**
3. **OTOSCLEROSIS**

4. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

DERMATOLOGY STANDARD

The applicant/incumbent must have skin that is sufficient for the individual to safely and efficiently carry out the requirements of the function. This may be demonstrated by:

- A physical exam of the skin that is within the range of normal variation; and
- No evidence by physical examination and medical history of dermatologic conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **ALBINISM**
2. **KAPOSI'S SARCOMA**
3. **CHRONIC DERMATITIS**
4. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

VASCULAR SYSTEM STANDARD

The applicant/incumbent must have a vascular system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the vasculature of the upper and lower extremities that is within the range of normal variation, including:
 - no evidence of phlebitis or thrombosis; and
 - no evidence of venous stasis; and
 - no evidence of arterial insufficiency; and
- No evidence by physical examination and medical history of peripheral vasculature conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **CHRONIC VENOUS INSUFFICIENCY**
2. **DEEP VEIN THROMBOSIS**
3. **CHRONIC THROMBOPHLEBITIS**
4. **INTERMITTENT CLAUDICATION**
5. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

CARDIAC STANDARD

The applicant/incumbent must have a cardiovascular system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the cardiovascular system that is within the range of normal variation, including:
blood pressure of less than or equal to 140 mmHg systolic and 90 mmHg diastolic; and
a normal baseline electrocardiogram (minor, asymptomatic arrhythmias may be acceptable); and
no pitting edema in the lower extremities, and
normal cardiac exam.
- No evidence by physical examination and medical history of cardiovascular conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **PACEMAKERS or PROSTHETIC VALVES** may be disqualifying.
Documentation from the individual's cardiologist, stating that the individual is stable and can safely carry out the specified requirements of the function, under the specified conditions, will be necessary before a clearance can be granted.
2. **CORONARY ARTERY DISEASE** A successful completion of an exercise stress test, or documentation from the individual's cardiologist acknowledging the requirements of the function and the work conditions, may allow a clearance despite this diagnosis.
3. **HYPERTENSION** that cannot be controlled to a level of 160/90 or less, or requires the use of any medication that affects the ability of the individual to safely and effectively carry out the requirements of the function, may be disqualifying.
4. **LEFT BUNDLE BRANCH BLOCK.**
5. **MYOCARDITIS/ ENDOCARDITIS/ PERICARDITIS** (Active or recently resolved cases).
6. History of **MYOCARDIAL INFARCTION.** Documentation from the individual's cardiologist, stating that the individual is stable and can safely carry out the specified requirements of the function, under the specified conditions, will be necessary before a clearance can be considered.
7. **VALVULAR HEART DISEASE** such as mitral valve stenosis, symptomatic mitral valve regurgitation, aortic stenosis etc. Exceptions may be granted depending upon the current clinical findings and diagnostic studies.
8. **DYSRHYTHMIAS:** such as ventricular tachycardia or fibrillation, Wolff-Parkinson-White syndrome, and Paroxysmal Atrial Tachycardia, with or without block.
9. **ANGINA PECTORIS** or chest pain of unknown etiology.
10. **CARDIOMYOPATHY** from any cause.
11. **CONGESTIVE HEART FAILURE**
12. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

CHEST AND RESPIRATORY SYSTEM STANDARD

The applicant/incumbent must have a respiratory system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the respiratory system that is within the range of normal variation; and
- A pulmonary function test (baseline exam) showing:
forced vital capacity (FVC) of at least 70% of the predicted value; and
forced expiratory volume at 1 second (FEV1) of at least 70% of the predicted value; and
the ratio FEV1/FVC of at least 70% of the predicted value; and
- No evidence by physical examination and medical history of respiratory conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

Note: The requirement to use an inhaler (such as for asthma) requires agency review.

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **SIGNIFICANT OBSTRUCTIVE OR RESTRICTIVE PULMONARY DISEASE.**
2. **ASTHMA** must be considered on a case-by-case basis.
3. **ACTIVE PULMONARY TUBERCULOSIS (TB):** A history of confirmed TB that has been treated for longer than 6 months is acceptable provided that documentation supports the treatment history.
4. **HISTORY OF CHRONIC BRONCHITIS ASSOCIATED WITH DECREASED PULMONARY FUNCTION**
5. **LUNG ABSCESS**
6. **SPONTANEOUS PNEUMOTHORAX** (if recurrent)
7. **EMPHYSEMA** (if associated with impaired pulmonary function test results)
8. **SARCOIDOSIS** (if associated with an impaired pulmonary function test results)
9. **PULMONARY EMBOLISM**
10. **PULMONARY INFARCTION**
11. **PNEUMONECTOMY** (if associated with impaired pulmonary function)
12. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

ENDOCRINE AND METABOLIC SYSTEM STANDARD

Any excess or deficiency in hormonal production can produce metabolic disturbances affecting weight, stress adaptation, energy production, and a variety of symptoms or pathology such as elevated blood pressure, weakness, fatigue and collapse. The applicant/incumbent must have endocrine and metabolic functions that are sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the skin, thyroid, and eyes that is within the range of normal variation; and
- Normal fasting blood sugar level; and
- Normal blood chemistry results; and

- No evidence by physical examination (including laboratory testing) and history of endocrine/metabolic conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **ADRENAL DYSFUNCTION** (in the form of Addison's Disease or Cushing's Syndrome).
2. **THYROID DISEASE** (uncontrolled or associated with current complications).
3. **PITUITARY DYSFUNCTION**
4. **INSULIN DEPENDENT DIABETES MELLITUS**
5. **HYPERGLYCEMIA** without a history of diabetes will require additional tests, including, but not limited to a glycohemoglobin (or hemoglobin A₁C) and fasting glucose before a final medical determination is made.
6. **DIABETES INSIPIDUS.**
7. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

THE CONDITION OF PREGNANCY

If a female applicant or incumbent raises the issue of pregnancy as the basis for a request for a special benefit, a change in duty status, or job restrictions, then justification and clarifying information for that request must be provided by the woman's obstetrician or primary care physician, along with the estimated time period the special conditions are expected to apply.

HEMATOPOIETIC SYSTEM STANDARD

The applicant/incumbent must have a hematopoietic (blood and blood-producing) system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the skin that is within the range of normal variation; and
- A complete blood count (including hemoglobin, hematocrit, platelets, and white blood count, with differential) that is within the normal range; and
- No evidence by physical examination (including laboratory testing) and medical history of hematopoietic conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **ANEMIA**-- Generally considered as:
hematocrit of less than 39% and a hemoglobin of less than 13.6 gm/dl for males
hematocrit of less than 33% and a hemoglobin of 12 gm/dl for females
(If anemia does exist but physical performance levels and pulmonary function are normal, this condition may be acceptable.)
2. **HEMOPHILIA**
3. **CHRONIC LYMPHANGITIS**
4. **THROMBOCYTOPENIA OR CLOTTING DISORDER**
5. **SICKLE CELL ANEMIA**

6. **SPLENOMEGALY**

7. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

MUSCULOSKELETAL SYSTEM STANDARD

The applicant/incumbent must have a musculoskeletal system that is sufficient for the individual to safely and efficiently carry out the functional requirements of the job. This may be demonstrated by:

- A physical exam of the upper and lower extremities, neck, and back that is within the range of normal variation for strength, flexibility, range of motion, and joint stability; and
- No evidence by physical examination and medical history of musculoskeletal conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

Note: For individuals who require the use of a prosthetic device, the examinee will have to provide for agency review documentation from his/her surgeon or physician that the individual (and, if applicable, his/her prosthetic device) is considered to be fully cleared for the essential functions of the job.

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **ARTHRITIS** (any etiology) if there is a limitation of major joint motion, and/or pain that prevents the full range of required performance activities.
2. **AMPUTATIONS OF AN EXTREMITY OR DIGITS** will be evaluated on a case-by-case basis.
3. **ANKYLOSING SPONDYLITIS.**
4. **MUSCULAR DYSTROPHY**
5. **LUMBOSACRAL INSTABILITY:** pain or limitations of flexibility and strength causing an inability to stand, bend, stoop, carry heavy objects or sit for long periods of time.
6. **SCIATICA OR OTHER NEUROPATHIES**
7. **CHRONIC LOW BACK PAIN** (by medical history) without demonstrable pathology must be considered on a case-by-case basis. Each case will be reviewed in context of the original history or etiology, the response to therapeutic regimes, frequency of recurrence, exacerbating factors, and lengths of disability associated with the recurrences combined with the current clinical presentation.
8. A history of a **CHRONIC SPRAIN OR STRAIN OF THE NECK** limiting mobility or causing recurring cephalgia (headaches).
9. Any evidence of a **CERVICAL NEUROPATHY**, including numbness, tingling or loss of motor strength in the upper extremities.
10. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

CENTRAL AND PERIPHERAL NERVOUS SYSTEM STANDARD, AND VESTIBULAR SYSTEM STANDARD

The applicant/incumbent must have a nervous system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A physical exam of the cranial and peripheral nerves and the vestibular and cerebellar system that is within the range of normal variation, including:
 - intact cranial nerves, I-XII; and
 - normal vibratory sense in the hands and feet; and
 - normal proprioception of the major joints; and
 - normal sensation of hot and cold in the hands and feet; and
 - normal sense of touch in the hands and feet; and
 - normal reflexes of the upper and lower extremities; and
 - normal balance (e.g., heel-toe walk; Romberg; balance on one foot); and
- Normal basic mental status evaluation (e.g., person, place, time, current events); and
- No evidence by physical examination and medical history of nervous, cerebellar, or vestibular system conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **ATAXIA** from any etiology
2. **VESTIBULAR NEURONITIS**
3. **VERTIGO & PAROXYSMAL FUNCTIONAL VERTIGO**
4. **CEREBROVASCULAR ACCIDENT** or **TRANSIENT ISCHEMIC ATTACKS**
5. **EPILEPSY** (See the seizure standard, below)
6. **MULTIPLE SCLEROSIS**
7. **MUSCULAR DYSTROPHY**
8. **NARCOLEPSY**
9. **NEUROFIBROMATOSIS**
10. **PARKINSON'S DISEASE**
11. **CEREBROVASCULAR ACCIDENT (STROKE)**
12. **TRANSIENT ISCHEMIC ATTACKS**
13. **SENSORY DYSFUNCTION** (smell, touch, taste, proprioception)
14. **MIGRAINE**
15. **CEPHALGIA**
16. **SEIZURES***
17. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

*Between 40 and 70 percent of people with a single, brief, generalized tonic-clonic seizure, who are found to have a normal EEG and no identified underlying cause for the seizure, will go on to experience further seizures if untreated. Also, approximately half of patients who become seizure-free on appropriate medication will be able to stop their medications and remain seizure-free. Those most likely to remain seizure-free are those who: 1) have had no seizures for 2 to 4 years; 2) had few seizures before the condition was medically controlled; 3) required only one medication to obtain control; 4) have a normal neurologic examination; 5) have no identified structural lesion responsible for the seizures; and 6) have a normal

electroencephalogram (EEG) at the end of the treatment period.* An individual with a history of seizures must meet the following criteria before a medical clearance can be granted:

1. the individual must be seizure-free for two years, with or without medication; and
2. present for MRO review at the end of that two year period the normal results of the individual's electroencephalogram (EEG); and
3. provide a written opinion from the individual's neurologist and, if necessary, a neurologist selected by the employing agency, regarding the ability of the individual to safely and efficiently carry out the specified requirements of the function, under the anticipated work conditions.

*Harrison's Principles of Internal Medicine, 13th Edition, McGraw-Hill, Inc., San Francisco, page 2232

GASTROINTESTINAL SYSTEM STANDARD

- The applicant/incumbent must have a gastrointestinal tract that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:
A physical exam and evaluation of the gastrointestinal tract that is within the range of normal variation; and
- Normal liver function and blood chemistry laboratory tests; and
- No evidence by physical examination (including laboratory testing) and medical history of gastrointestinal conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **ACUTE AND CHRONIC ACTIVE HEPATITIS**
2. **ACUTE VIRAL HEPATITIS** (After being asymptomatic for three (3) months an applicant may be re-evaluated).
3. **CROHN'S DISEASE / ULCERATIVE COLITIS / REGIONAL ENTERITIS/SPRUE or IRRITABLE BOWEL SYNDROME** (these conditions, controlled with surgical and/or medication treatments, will be reviewed on a case-by-case basis).
4. **COLOSTOMIES**, unless the precipitating condition has stabilized and the applicant/incumbent demonstrates successful management of the colostomy, considering the requirements of the function and the work conditions.
5. **ILEITIS**, either recurrent or chronic.
6. **CHOLECYSTITIS** (chronic or recurring).
7. **DIVERTICULITIS** (symptomatic).
8. **CIRRHOSIS OF THE LIVER** (depending upon the degree of severity and the etiology).
9. **INTESTINAL OBSTRUCTION** from any cause.
10. **ESOPHAGEAL VARICES**
11. **PANCREATITIS**
12. **UNTREATED (OR UNSUCCESSFULLY TREATED) INGUINAL, INCISIONAL OR VENTRAL HERNIA** that is associated with symptoms
13. **ACTIVE GASTRIC OR DUODENAL ULCER**

14. **GASTRIC OR BOWEL RESECTION**, if there is any evidence (historical or physical) of pain, hemorrhage, fainting episodes or dietary restrictions that could interfere with the performance of the job.
15. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.

GENITOURINARY SYSTEM STANDARD

The applicant/incumbent must have a genitourinary system that is sufficient for the individual to safely and efficiently carry out the requirements of the job. This may be demonstrated by:

- A normal clean catch urinalysis; and
- No evidence by physical examination and medical history of genitourinary conditions likely to present a safety risk or to worsen as a result of carrying out the essential functions of the job (see page 3).

CONDITIONS WHICH MAY RESULT IN DISQUALIFICATION INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING EXAMPLES:

1. **POLYCYSTIC KIDNEY DISEASE**
2. **ACUTE or CHRONIC RENAL FAILURE**
3. **NEPHROTIC SYNDROME**
4. **SYMPTOMATIC URINARY CALCULI**
5. **NEUROGENIC BLADDER**
6. **HISTORY OF RENAL VEIN THROMBOSIS**
7. **UNCORRECTED OBSTRUCTIVE UROPATHIES**
8. **RENAL TOXICITY FROM ANY CAUSE**
 9. Any other condition not otherwise listed that may adversely affect safe and efficient job performance will be evaluated on a case-by-base basis.